

What Is Claimed Is:

1. A varactor diode alternative circuit having at least three varactor diodes that are in each case connected in series alternately opposite to one another and a resistor network and/or inductor network, which has the effect that

- a) at each of the varactor diodes, a control voltage supplied to the circuit for adjusting the capacitance is applied at least approximately at full extent, and
- b) an alternating voltage that is applied at the series connection of the varactor diodes, which is at a higher frequency compared to the control voltage, is distributed preferably at least approximately uniformly to the varactor diodes.

2. The varactor diode alternative circuit as recited in Claim 1, characterized by a development of the resistor network and/or the inductor network in such a way that the anodes of the varactor diodes, with respect to a control voltage applied to the circuit, are connected to a first electrical potential, and their cathodes, with respect to the control voltage, are connected to a second electrical potential that is higher, by the control voltage, compared to the first potential.

3. The varactor diode alternative circuit as recited in Claim 1 or 2, the circuit having an uneven number of varactor diodes or of parallel connections of varactor diodes;

at each node of the series connection, respectively either anodes of the diodes or cathodes of the diodes being connected to one another;

the nodes of the anodes lying between the outside terminals being connected via resistors and/or inductors to the anode of that diode whose anode forms a first outside terminal of the alternative circuit; and

the nodes of the cathodes lying between the outside terminals being connected via resistors and/or inductors to the cathode of that diode whose cathode forms a second outside terminal of the circuit.

4. The varactor diode alternative circuit as recited in Claim 1 or 2,

the circuit having an even number of varactor diodes or of parallel connections of varactor diodes;

at each node of the series connection, respectively either anodes of the diodes or cathodes of the diodes being connected to one another;

the nodes of the anodes lying between the outside terminals being connected via resistors and/or inductors to the anodes of those diodes whose anodes form a first outside terminal and a second outside terminal of the alternative circuit; and

the nodes of the cathodes lying between the outside terminals being connected to resistors and/or inductors whose second terminals form the control voltage terminal for supplying the control voltage setting the capacitance.

5. The varactor diode alternative circuit as recited in Claim 1 or 2,

the circuit having an even number of varactor diodes or of parallel connections of varactor diodes;

at each node of the series connection, respectively either

anodes of the diodes or cathodes of the diodes being connected to one another;
the nodes of the cathodes lying between the outside terminals being connected via resistors and/or inductors to the cathodes of those diodes whose cathodes form a first outside terminal and a second outside terminal of the alternative circuit, and the nodes of the anodes lying between the outside terminals being connected to resistors or inductors whose second terminals form the control voltage terminal for supplying the control voltage setting the capacitance.

6. The varactor diode alternative circuit as recited in Claim 1 or 2,
at each node of the series connection, respectively either anodes of the diodes or cathodes of the diodes being connected to one another;
the anodes being connected to a first additional terminal via resistors and/or inductors; and
the cathodes being connected via resistors and/or inductors to a second, additional terminal, which additional terminals are used for supplying the control voltage setting the capacitance.

7. An electrical circuit device or an electrical unit having a varactor diode alternative circuit as recited in one of the preceding claims.